

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
Organic Chemistry

⑦ Chem.
Viscosity and structure of dialkyl phosphites. B. A. Arhuzov and V. S. Vinogradova. Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci. 1952, 485-9 (Engl. translation).
See C.A. 47, 4834d. H. L. H.

VINOGRADOVA, V. S.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Organic Chemistry

(2)
Viscosity and structure of esters of phosphorous, phosphoric, and thionophosphoric acids and boric acid. B. A. Arbutov and V. S. Vinogradova. *Bull. acad. sci. U.S.S.R., Classe sci. chim.* 1952, 773-80 (Engl. translation). See *C.A.* 47, 10458e. H. L. H.

11F
9-14-54

VINOGRADOVA, V. S.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Organic Chemistry

4
Esters of alkylphosphonic acids and their parachors. B.
A. Arbutov and V. S. Vinogradova, Bull. acad. sci.
U.S.S.R., Classe sci. chim. 1952, 787-UR (Engl. translation).
See C.A. 47, 10404A.
H. L. H.

ME
9-28-54

ARBUZOV, B.A.; VINOGRADOVA, V.S.

Viscosity and structure of esters of phosphorous, phosphoric, and thio-phosphoric acids and boric acid. Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk '52, 865-74.
(CA 47 no.20:10458 '53)

1. Kazan State Univ.

ARBUZOV, B.A.; VINOGRADOVA, V.S.

Esters of alkylphosphonic acids and their parachors. Izvest. Akad. Nauk
S.S.S.R., Otdel. Khim. Nauk '52, 882-93. (MIRA 5:11)
(CA 47 no.20:10464 '53)

1. Kazan State Univ.

VINOGRADOVA, V. S.

USSR/Chemistry - Cetyl Esters

May/Jun 52

"Cetyl Esters of Some Inorganic Acids,"
B. A. Arbuzov, V. S. Vinogradova, Sci
Res Chem Inst imeni A. M. Butlerov,
Kazan' State U imeni V. I. Ulyanov-Lenin

"Iz Ak Nauk, Otdel Khim Nauk" No 3, pp 505,506

By re-esterification with cetyl alc of ethyl esters
the following products were obtained: tricetylpho-
sphite and tetracetylorthosilicate. Tricetyl
borate was obtained by the action of cetyl alc on
boric acid. All esters obtained can be distilled
in vacuum without decomp.

220T16

INOGRADOVA, V. S.

USSR/Chemistry - Organo-Phosphorus
Compounds May/June 52

"The Viscosity and Structure of Dialkylphosphorous Acids," B. A. Arbuzov, V. S. Vinogradova, Sci Res Chem Inst Imeni A. M. Butlerov, Kazan State U Imeni V. I. Ulyanov-Lenin

"Iz Ak Nauk, Otdel Khim Nauk" No 3, pp 507-511

Detn of the viscosity of dialkylphosphorous acids in dil solns of carbon tetrachloride or benzene showed that according to the given values of η equiv they are in the monomeric state. The following compds

220717

were synthesized for the 1st time by re-esterification of diethylphosphorous acid with the corresponding alc: dimethylphosphorous, didecylphosphorous, decetylphosphorous, di- β -phenylethylphosphorous, ethylhexylphosphorous and ethyloctylphosphorous acids.

220717

VINOGRADOVA, V. S.

USSR/Chemistry - Organophosphorus Compounds 1 Mar 52

"Preparation of Higher Dialkylphosphorous Acids by the Reaction of Re-esterification," B. A. Arbuzov, Corr Mem, Acad Sci USSR, V. S. Vinogradov, Sci Res Inst Imeni A. M. Butlerov, Kazan State U imeni V. I. Ul'yanov-Lenin

"Dok Ak Nauk SSSR" Vol 83, No 1, pp 79, 80

Two moles of the appropriate alc were reacted with one mole of diethylphosphorous acid in the presence of a few drops of concd phosphoric

234T2

acid catalyst to form the following dialkylphosphorous acids, which were isolated: dihexyl, dioctyl, dionyl, didecyl, didecyl, and di-beta-phenylethyl. Hexylethyl and octylethyl phosphorous acids were obtained by using only one mole of the alc. Re-esterification can also be carried out with the following alcs: ethylene glycol, cyclohexanol, benzylalc, and octanol-2. However, distn caused the products to decompose, so that isolation of esters of this group was unsuccessful.

234T2

VINOGRADOVA, V. S.

USSR/ Chemistry Physical chemistry

Card : 1/1 Pub. 40 - 7/27

Authors : Arbuzov, B. A., and Vinogradova, V. S.

Title : Parachors of mono-esters of ethylphosphinous acid

Periodical : Izv. AN SSSR. Otd. khim. nauk 4, 622 - 626, July - August 1954

Abstract : Data on the parachors of many mono-esters of ethylphosphinous acid and the constants of these esters, are presented. Excellent conformity between the found and computed parachor values was observed during the reaction of the ester chains of the different molecules. The parachor and molecular weights data, which were determined cryoscopically, indicate the monomerism rather than the association of the investigated esters. Thirteen references: 8 USSR and 5 USA (1942 - 1953). Tables.

Institution : The V. I. Lenin State University, The A. M. Butlerov Scientific Research Institute of Chemistry, Kazan

Submitted : June 19, 1953

VINOGRADOVA, V. S.

USSR/ Chemistry Physical chemistry

Card : 1/1 Pub. 40 - 8/28

Authors : Arbuzov, B. A., and Vinogradova, V. S.

Title : Parachors of certain dibutylcarbinol esters

Periodical : Izv. AN SSSR. Otd. khim. nauk 4, 627 - 630, July - August 1954

Abstract : New hitherto unknown esters of dibutylcarbinol carbonic, malonic, boric and orthosilicic acids, were synthesized and their parachor values determined. The necessity of introducing corrections for the parallelism of main and side chains, was established on the basis of the computed parachor values. The introduced corrections are shown in tables. Thirteen references: 8 USSR; 4 USA and 1 French (1907 - 1954).

Institution : The V. I. Lenin State University, The A. M. Butlerov Scientific Research Institute of Chemistry, Kazan

Submitted : June 19, 1953

VINOGRADOVA, V.S.

ARBUZOV, B.A., akademik; VINOGRADOVA, V.S.

Synthesis of esters of certain β -ketophosphinic acids. Dokl. AN
SSSR 99 no.1:85-87 N '54. (MIRA 8:2)

1. Nauchno-issledovatel'skiy khimicheskiy institut im. A.M. Butlerova
pri Kazanskom gosudarstvennom universitete im. V.I. Ul'yanova-Lenina
(Phosphinic acid)

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6"

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6"

ARBUZOV, B.A.; VINOGRADOVA, V.S.

Parachors of methyltrialkylsilanes. Izv.AN SSSR Otd.khim.nauk 86 no.6:
1031-1036 My '55. (MLRA 9:4)

1.Khimicheskiy institut imeni A.M.Butlerova, Kazanskogo gosudarstven-
nogo universiteta imeni V.I.Ul'yaneva-Lenina.
(Silane) (Paracher)

VINOGRADOVA, V.S.

ARBUZOV, B.A. (Kazan'); ~~VINOGRADOVA, V.S. (Kazan')~~

Keto-enol tautomerism of some phosphorus organic compounds. Uch.zap.
Kaz.un. 115 no.10:36-37 '55. (MLRA 10:5)

(Phosphorus organic compounds)
(Tautomerism)

VTNOGRADOVA, V. S. and ARBUZOV, B. A.

"Esters of Ketophosphonic Acids and Some of Their Properties"
paper presented at Nn First Conference on Phosphorous Compounds, Kazan,
8-10 Dec 56

SO: B-3,084,841

VINOGRADOVA, I.S.

"Esters of Beta-Ketophosphonic Acids, Communication 1. Phospho-
acetic Ester, Phosphonacetone, and Their Homologs," by B. A.
Arbuzov and V. S. Vinogradova, Chemical Institute imeni A. M.
Butlerov, Kazan State University imeni V. I. Lenin, Izvestiya
Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, No 1, Jan
56, pp 54-63

This article outlines material indicating an analogy between carbox-
ylic acids and beta-keto and beta-carbalkoxy derivatives of phosphonic
acid esters. The phosphonacetic and methyl phosphonacetic esters do not
contain noticeable amounts of the enol form. Both phosphonacetone and
methyl phosphonacetone contain small amounts of the enol form, as deter-
mined bromine titration. Considerable enolization was found to take place
in an alkaline medium. Esters of beta-ketophosphonic acids as prepared
by Arbuzov's rearrangement have properties differing from those as pre-
pared with sodium diethylphosphate.

Sum. 1305

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6"

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6"

Vinogradova, V. S.

USER/ Chemistry

Card 1/1 Pub. 22 - 24/54

Authors : Arbuzov, B. A., Academician, and Vinogradova, V. S.

Title : Beta-ketophosphinic acid ester investigated by the bromine titration method

Periodical : Dok. AN SSSR 106/2, 263-266, Jan 11, 1956

Abstract : Numerous beta-phosphinic acid esters were synthesized and investigated to determine the existence of anol forms of these esters and to establish the effect of the carboxyl and phosphonium groups on the formation of enol forms. It was found that the results obtained by the application of the bromine titration method do not allow the problem concerning the existence of enol forms or their number in esters of various beta-phosphinic acids to be solved. Further study of these acids by physico-chemical methods is recommended. Eight references: 6 USSR and 2 Germ. (1911-1955). Tables.

Institution : Scient. Res. Inst. im. A. M. Butlerov at the Kazan University im. V. I. Lenin

Submitted : September 24, 1955

Vinogradova, V. S.

2

5

Ultraviolet absorption spectra of esters of keto phosphonic acids. H. A. Arhazov and V. S. Vinogradova (V. I. Ulyanov-Lenin State Univ., Kazan). Doklady Akad. Nauk S.S.S.R. 166, 465-8 (1950). — Reproductions of ultraviolet absorption spectra are given for solns. of several esters of keto phosphonic acids and of their alkenyl phosphate analogs, in ROH and in ROH-RONa. $(EtO)_2P(O)CH_2Ac$ in MeOH has a spectrum similar to that of $AcCH_2CO_2Et$ in H_2O , indicating very little enol form; in $MeONa-MeOH$, there is a max. at 2400 Å., indicative of considerable concn. of enolate ions; $(EtO)_2P(O)CH_2CO_2Et$ gives a similar spectrum which is similar to that of $BuSO_3CH_2Ac$ (cf. Fehnel and Carmack, C.A. 43, 4215). MeOH, hexane, or H_2O as solvents give substantially the same spectrum of $(EtO)_2P(O)CH_2Ac$ (I). The spectrum of $(EtO)_2P(O)OCMe_2CH_2CH_2Ac$ (II). The spectrum of (I) shows a max. 2500 Å., in the location in which I has a min.; MeONa merely enhances the 2500 band. The above results were obtained from 1 prep. from $(EtO)_2P$ and XCH_2Ac . 1 prep. from $(EtO)_2PONa$ and $BrCH_2Ac$ has a smoother absorption curve and lacks the max. at 2400 Å.; in MeONa this specimen also has the enolate band at 2400 Å. $(EtO)_2P(O)OCMe_2Ac$, prep. from $(EtO)_2PONa$, has less than 2% dimer with Br , and its absorption spectrum has max. at 2300 and 2300 Å., unchanged by MeONa. $(EtO)_2P(O)CH_2COPh$, prep. from $(EtO)_2P$, gives $FeCl_3$ color test and contains 9% un-satd. material; its spectrum in MeOH duplicates that of

(over)

Arbuzov B.A.

AcPh; apparently the 2150-A. max. is due to keto form and 2850-A. to enol. Hexane does not alter the shape of the curve; in aq. soln. the 2850-A. band weakens; in MeONa-MeOH the 2150-A. band weakens and 2900-3100-A rises sharply, apparently owing to enolization or chelation. $(EtO)_2P(O)CMe_2COPh$ has a sharp band at 2150 A. and no max. at 2850 A.; MeONa does not change the spectrum. An analogy is drawn between the ketophosphonates and malonic ester.

G. M. Kosolapoff

PM

... .. 3

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6"

VINOGRADOVA, V.S., ARBUZOV, B.A., FUFHENKOVA, A.N., FOLKATSEVA, T.G. (Chair of Organic Chemistry and NII of Chemistry im. A.M. Butlerov of Kazan State University im. V.I. Ul'yanov-Lenin)

"Intermediate Products by the Arbuzov Rearrangement" (Promezhutochnyye produkty pri peregruppirovke Arbuzova)

Chemistry and Uses of Organophosphorous Compounds
(Khimiya i primeneniye fosfororganicheskikh soedneniy),
Trudy of First Conference, 8-10 December 1955, Kazan,
pp. Published by Kazan Aftil. AS USSR, 1957
62-75,

Report discussed by: B.Ya. Teytel'baum (Chem. Inst. im. Acad. A.Ye. Arbuzov, Kazan Aff. AS USSR), M.I. Kabachnik (Inst. Elementary Organic Compounds AS USSR), and V.S. Abramov (Kazan Chem. Technological Inst. im. S.M. Kirov). Experiments mentioned by V.S. Abramov were conducted by A.I. Bol'shakova.

VINOGRADOVA, V.S., ARBUZOV, B.A. (Chem. Inst. im. A.M. Butlerov under the Kazan State University im. V.I. Ul'yanov-Lenin)

"Esters of Beta-Ketophosphinic Acids and Some of the Their Properties" (Efiry Beta-ketofosfinovykh kislot i nekotoryye ikh svoystva)

Chemistry and Uses of Organophosphorous Compounds
(Khimiya i primeneniye fosfororganicheskikh sovedneniy),
Trudy of First Conference, 8-10 December 1955, Kazan,
pp. Published by Kazan Affil. AS USSR, 1957
176-184,

Report discussed by A.N. Pudovik (Chem. Inst. im. Acad. A.Ye. Arbuzov, Kazan Affil. AS USSR) and M.I. Kabachnik (Inst. Elem. Organ. Compounds AS USSR, Moscow)

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6"

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6

VINOGRADOVA V. S.

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6"

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6"

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6"

AUTHORS: Arbuzov, B. A., and Vinogradova, V. S. 62-1-8/21

TITLE: Esters of Beta-Ketophosphinic Acids (Beta-Ketophosphinates) Part 1. Phosphonacetic Ester, Phosphonacetone and their Homologues (Efiry beta-ketofosfinovykh kislot, Soobshcheniye 1. Fosfonuksusnyy efir, fosfonatseton i ikh gomologi)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1957, No. 1, pp. 54-64 (U.S.S.R.)

ABSTRACT: Data are presented on the synthesis of certain substituted derivatives of phosphonacetic ester, phosphonacetone and its methyl derivatives and the results obtained during the titration of these compounds with bromine. The three methods employed in the synthesis of these compounds are : A, reaction of alpha-halogeno-carbonyl compounds with phosphorous acid esters (the A. Ye. Arbuzov regrouping); B, reaction of dialkylphosphites with alphas-halogeno-carbonyl compounds (Michael's-Becker reaction); and C, alkylation of the metallic derivatives of beta-phosphoncarbonyl compounds with alkyl halides. The constants and properties of the compounds obtained by the three different methods were found to be quite different. It was found that the amount of phosphoric ester

Card 1/3

62-1-8/21

Esters of Beta-Ketophosphinic Acids (Beta-Ketophosphinates) Part 1.
Phosphonacetic Ester, Phosphonacetone and their Homologues

obtainable depends upon the reaction temperature and nature of the halide, high temperature aids the formation of ketophosphinic acid ester, lower temperature promotes formation of phosphoric ester.

The chloro-derivatives sometimes yield an unsaturated phosphoric ester; the formation of unsaturated phosphoric acid esters explains the abnormal case of unsaturation in the di-substituted compounds. The enol content in the phosphonacetic and methylphosphonacetic esters, determined by the bromine titration method, is explained by the presence of hardly-separable small amounts of unsaturated phosphoric acid ester. Considerable enolization takes place in alkali media.

Card 2/3 Tables, graphs. There are 24 references, of which 10 are Slavic.

62-1-8/21

Esters of Beta-Ketophosphinic Acids (Beta-Ketophosphinates) Part 1.
Phosphonacetic Ester, Phosphonacetone and their Homologues

ASSOCIATION: The Kazan' State University imeni V. I. Ul'yanov-Lenin, Institute
of Chemistry imeni A. M. Butlerov.

PRESENTED BY:

SUBMITTED: January 12, 1956

AVAILABLE: Library of Congress

Card 3/3

AUTHORS: Arbuzov, B. A., Member, Academy of Sciences, USSR, Vinogradova, V. S., Polezhayeva, N. A. SOV/20-121-4-19/54

TITLE: On the Structure of the Products of the Interaction Between Some α -Haloid Ketones of the Carbocyclic Series and Triethyl Phosphite and Sodium Diethyl Phosphite (O stroenii produktov vzaimodeystviya nekotorykh α -galoidoketonov karbo-tsiklicheskogo ryada s trietilfosfitom i dietilfosforistym natriyem)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 121, Nr 4, pp. 641 - 643 (USSR)

ABSTRACT: In the course of the past years the authors found that the reaction of regrouping according to Arbuzov of triethyl phosphite with α halide ketones proceeds in a very complicated way in the production of β -ketophosphinic acid ethers. Apart from the mentioned ethers mixed phosphoric ethers are formed (Ref 2). Thus the investigation of the first mentioned ethers was rendered more difficult and some deviations of their chemical and physical properties were explained (Ref 3). It proved true that the reaction according

Card 1/4

On the Structure of the Products of the Interaction SOV/20-121-4-19/54
Between Some α -Haloid Ketones of the Carbocyclic Series and Triethyl
Phosphite and Sodium Diethyl Phosphite

to Mikhaelis-Bekker in the case of the interaction between sodium diethyl phosphite and α -haloid ketones proceeds also in a complicated way and that it also leads to the formation of epoxy phosphinic acid ethers apart from the expected ethers (Ref 4). In this paper the structure mentioned in the title is shown. The ketones are: α -chloro-cyclohexanone, α -chloro- α -methyl cyclohexanone, α -chloro-cyclopentanone and ethers of bromine pyruvic acid. The investigation of the product of interaction between α -chloro-cyclohexanone and sodium diethyl phosphite revealed (in contrast to Ref 6) that it is neither an unsaturated ether of phosphoric acid nor a phosphonium cyclohexanone ether. Its spectrum of combination light dispersion does not contain the frequency of the carbonyl group. These and other data show that this product has the structure of a diethyl ether of epoxy cyclohexane phosphinic acid. This assumption was proved by the synthesis carried out by the authors (Ref 4). Thus it was proved that the last mentioned ether was concerned and no α -phosphonium cyclohexanone. Somehow surprising was the

Card 2/4

On the Structure of the Products of the Interaction SOV/20-121-4-19/54
Between Some α -Haloid Ketones of the Carbocyclic Series and Triethyl
Phosphite and Sodium Diethyl Phosphite

similarity between the constants and the spectra of the combination light dispersion of the products of the two phosphites mentioned in the title acting upon α -chloro- α -methylcyclohexanone. The mentioned findings show the complicated process taken by this reaction. It leads to the formation of unsaturated phosphoric acid ethers, ethers of epoxy phosphinic acids, in some cases, however, even of β -ketophosphinic ethers (Ref 4); this depends on the nature of the haloid, the conditions of reaction and the substituting alkyl radicals. There are 5 references, 5 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy khimicheskiy institut im.A.M.
Butlerova pri Kazanskom gosudarstvennom universitete im.
V.I.Ul'yanova-Lenina (Scientific Chemical Research Institute
imeni A.M.Butlerov, State University imeni V.I.Ul'yanov-Lenin,
Kazan')

Card 3/4

SOV/62-59-1-7/38

5(3)

AUTHORS:

Arbuzov, B. A., Vinogradova, V. S., Polezhayeva, N. A.

TITLE:

Esters of β -Ketophosphinic Acids (Efiry β -ketofosfinovykh kislot) Communication III. On the Structure of Products Resulting From Interaction Between Certain Halogen Ketones With Triethyl Phosphite and Sodium Diethyl Phosphite (Soobshcheniye 3. O stroenii produktov vzaimodeystviya nekotorykh galoideketonov s trietilfosfitom i dietilfosforistym natriyem)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 1, pp 41 - 49 (USSR)

ABSTRACT:

In the preceding papers (Refs 1-3) the authors found that the esters of β -ketophosphinic acid synthesized in various ways differ considerably as to their physical constants as well as to their behavior towards dinitro-phenyl hydrazine. The differences are particularly evident in ultra-violet spectra. The causes for these differences, however, have not yet been made clear. In order to obtain preparations as pure as possible the authors of this paper distilled preparations earlier obtained as well as new ones in rectification columns with an efficiency of 17 theoretical plates.

Card 1/3

Esters of β -Ketophosphinic Acids. Communication III. SOV/62-59-1-7/38
On the Structure of Products Resulting From Interaction Between Certain
Halogen Ketones With Triethyl Phosphite and Sodium Diethyl Phosphit

The constants of the pure preparations are given in table 1 . Ultraviolet absorption spectra were recorded by means of the spectrometer SF-4 in methyl alcohol solution. Raman spectra were recorded by means of the three-prism spectrograph ISP-51. The investigations carried out have shown the following data: on the effect of triethyl phosphite on chloro and bromo acetone (beside isopropyl ester of the diethyl phosphoric acid) as well as on bromoethyl ketone esters of corresponding β -ketophosphinic acids are formed. Products of potassium derivatives of phosphonium acetone and methyl-phosphonium acetone, which were synthesized by methylation with methyl iodide, possess the structure of esters of the β -ketophosphinic acid. On the effect of sodium diethyl phosphite on chloro and bromo acetone as well as on bromo- α -bromo-ethyl ketone esters of the epoxy phosphinic acid are formed. Their structure was confirmed by a synthesis carried out in another way and by Raman spectra. Contrary to Kreutzkamp's and Kayser's data, not the unsaturated isopropyl ester of phosphoric acid is

Card 2/3

Esters of β -Ketophosphinic Acids. Communication III. SOV/62-59-1-7/38
 On the Structure of Products Resulting From Interaction Between Certain
 Halogen Ketones With Triethyl Phosphite and Sodium Diethyl Phosphite

produced on the effect of sodium diethyl phosphite on chloro and bromo acetone, but the ethyl ester of epoxy-propyl phosphinic acid as well as phosphonium acetone. The product synthesized by the interaction of methyl- γ -chloro-propyl ketone with sodium dialkyl phosphite possesses the structure of the ester of 1-methyl-tetrahydrofuran phosphinic-1-acid. There are 1 figure, 2 tables, and 13 references, 8 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut im. A. M. Butlerova
 Kazanskogo gosudarstvennogo universiteta im. V. I. Ul'yanova-Lenina (Scientific Research Institute imeni A. M. Butlerov of the Kazan' State University imeni V. I. Ul'yanov-Lenin)

SUBMITTED: May 11, 1957

Card 3/3

5(3)

AUTHORS:

Arbuzov, B. A., Academician,
Vinogradova, V. S., Polezhayeva, N. A.

SOV/20-128-1-21/58

TITLE:

Diethyl Ester of Cyclohexanone-2-Phosphinic Acid

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 1, pp 81-84
(USSR)

ABSTRACT:

In the present paper the authors synthesized the diethyl ester of cyclohexanone-2-phosphinic acid on the basis of α, α' -dibromo cyclohexanone. By reaction of triethyl phosphite upon α, α' -dibromo cyclohexanone the diethyl phosphinic ester of the enol form of cyclohexanone-2-phosphinic ester (III) was obtained with the following constants: boiling point $172.5 - 173^\circ/2.5$ mm; d_4^{20} 1.1885; n_D^{20} 1.4652. This compound was converted into the diethyl ester of cyclohexanone-2-phosphinic acid by means of ethyl alcohol. The molecular refraction of cyclohexanone phosphinic ester is placed between the values which were computed for the ketone- (IV) (57.06) and for the enol form (V) (58.11). Figure 1 shows its ultraviolet absorption spectra in aqueous solution (curve 1) in methyl alcohol solution (curve 2) and in isooctane (curve 3). Figure 2

Card 1/2

Diethyl Ester of Cyclohexanone-2-Phosphinic Acid

SOV/20-128-1-21/58

gives the ultraviolet absorption spectrum in methyl alcohol solution with content of sodium methylate. With the example of the diethyl ester of cyclohexanone-2-phosphinic acid it was demonstrated that a ketoenol tautomerism may occur in phosphinic esters containing a group of ketones in β -position within the hydrocarbon radical present in phosphorus. There are 2 figures and 8 references, 3 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut im. A. M. Butlerova
Kazanskogo gosudarstvennogo universiteta im. V. I. Ul'yanova-
Lenina (Scientific Research Institute imeni A. M. Butlerov
of the Kazan State University imeni V. I. Ul'yanov-Lenin)

SUBMITTED: June 5, 1959

Card 2/2

ARBUZOV, B.A.; VINOGRADOVA, V.S.; POLEZHAYEVA, N.A.

Esters of β -ketophosphonic acids. Report No.5: Structure of the products of the interaction between certain α -halo ketones of the carbocyclic series, triethyl phosphite, and sodium diethyl phosphite. Izv. AN SSSR Otd.khim.nauk no.5:832-841
My '60. (MIRA 13:6)

1. Khimicheskiy institut imeni A.M. Butlerova Kazanskogo gosudarstvennogo universiteta.
(Ketones) (Phosphorous acid)

5.3630

2203, 1153, 1266

84852

S/062/60/000/010/005/018

B015/B064

AUTHORS: Arbuzov, B. A., Vinogradova, V. S., and Zvereva, M. A.

TITLE: Esters of β -Ketophosphinic Acids. Information 6. Products of the Reaction of Chloro- and Bromo Acetones With the Diethyl Ester of Ethyl Phosphinous Acid and With the Sodium Salt of the Monoethyl Ester of Ethyl Phosphinous Acid

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 10, pp. 1772-1778

TEXT: The investigations mentioned in the title were carried out to determine the effect of an exchange of an ethyl radical directly bound to phosphorus for the ethoxyl radical in triethyl phosphite, or in diethyl phosphorous sodium. The reaction between chloroacetone and the diethyl ester of ethyl phosphinous acid led to the mixed ethyl isopropenyl ester of ethyl phosphinous acid: X

Card 1/4

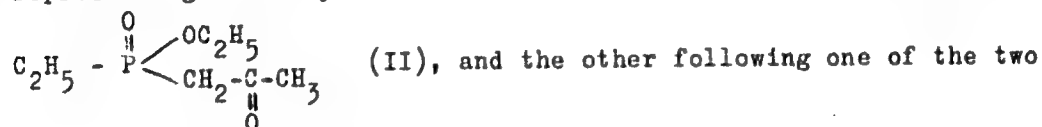
84852

Esters of β -Ketophosphinic Acids. Information
6. Products of the Reaction of Chloro- and
Bromo Acetones With the Diethyl Ester of
Ethyl Phosphinous Acid and With the Sodium
Salt of the Monoethyl Ester of Ethyl
Phosphinous Acid

S/062/60/000/010/005/018
B015/B064



bromo acetone with the diethyl ester of ethyl phosphinous acid, and it
was found that one of them corresponded to ester (I), and the other
product was a mixture yielding two substances after distillation, one
representing the ethyl ester of ethyl acetyl phosphinic acid,



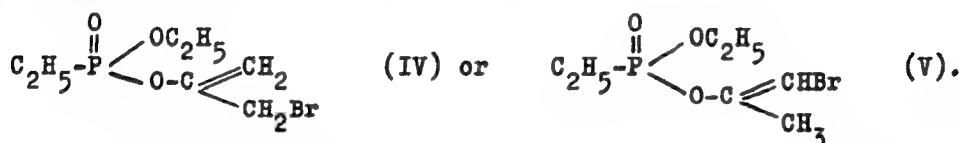
formulas:

Card 2/6

84852

Esters of β -Ketophosphinic Acids. Information
6. Products of the Reaction of Chloro- and
Bromo Acetones With the Diethyl Ester of
Ethyl Phosphinous Acid and With the Sodium
Salt of the Monoethyl Ester of Ethyl
Phosphinous Acid

S/062/60/000/010/005/018
B015/B064



It is, however, necessary to carry out further investigations to verify one of the two last-mentioned formulas. The reaction between chloro acetone and the sodium salt of the monoethyl ester of ethyl phosphinous acid leads to the ethyl ester of ethyl epoxy isopropyl phosphinic acid:



Card 3/84

84852

Esters of β -Ketophosphinic Acids. Information
6. Products of the Reaction of Chloro- and
Bromo Acetones With the Diethyl Ester of
Ethyl Phosphinous Acid and With the Sodium
Salt of the Monoethyl Ester of Ethyl
Phosphinous Acid

S/062/60/000/010/005/018
B015/B064

(ISP-51) spectrograph) and the ultraviolet absorption spectra (obtained from an $C\Phi$ -41 (SF-4) quartz spectrophotometer) of the substances obtained, which have hitherto not been described in the literature, and corresponding steps of preparation are given. It is stated that the reactions investigated by the authors proceed in the same directions as those of triethyl phosphite and diethyl phosphorous sodium (Ref. 1). There are 2 figures and 9 references: 5 Soviet, 2 US, 1 British, and 1 German. X

ASSOCIATION: Nauchno-issledovatel'skiy institut im. A. M. Butlerova
Kazanskogo gosudarstvennogo universiteta (Scientific
Research Institute imeni A. M. Butlerov of Kazan' State
University). Khimicheskiy institut im. A. Ye. Arbuzova
Kazanskogo filiala Akademii nauk SSSR (Chemical Institute
imeni A. Ye. Arbuzov of the Kazan' Branch of the Academy of
Sciences USSR)

Card 4/8

ARBUZOV, B.A.; VINOGRADOVA, V.S.; ZVEREVA, M.A.

Esters of β -keto phosphonic acids. Report No.7: Products of the reaction of α -chlorocyclohexanone with diethyl ester of ethylphosphonous acid and the sodium salt of the monoethyl ester of ethylphosphonous acid. Izv. AN SSSR.Otd. khim. nauk no.11:1981-1984 N '60. (MIRA 13:11)

1. Khimicheskiy institut Kazanskogo filiala AN SSSR i Khimicheskiy institut im. A.M.Butlerova Kazanskogo universiteta im. V.I.Ul'yanova-Lenina.

(Cyclohexanone) (Phosphonous acid)

21495

S/020/61/137/004/019/031
B103/B208

5.3630 2209 1287.1153

AUTHORS: Arbuzov, B.A., Academician, Vinogradova, V.S. and
Polezhayeva, N.A.

TITLE: Diethyl ester of 1-ethoxy-cyclohexene-1-phosphinic-2-acid

PERIODICAL: Doklady Akademii nauk SSSR, v. 137, no. 4, 1961, 855 - 858

TEXT: The authors prepared the diethyl ester of 1-ethoxy-cyclohexene-1-phosphinic-2-acid (X) in an indirect way, having previously (Ref. 1, DAN, 121, 641, 1958) proved that the esters of cyclohexanone-2-phosphinic acid could neither be obtained by the Arbuzov rearrangement nor by the Michaelis-Becker reaction (neither of these reactions is described). Therefore, they used the diethyl phosphoric ester of the enol form of cyclohexanone-2-phosphinic ester (III) whose radicals were interchanged by ethanol (Ref. 2, DAN, 128, 81, 1959). A comparatively low yield of the phosphoric ester of cyclohexenol phosphinic acid, and a poor reproducibility of the experiment induced the authors to study the causes of these results, and to find better methods of preparing the latter ester. The reaction bet-

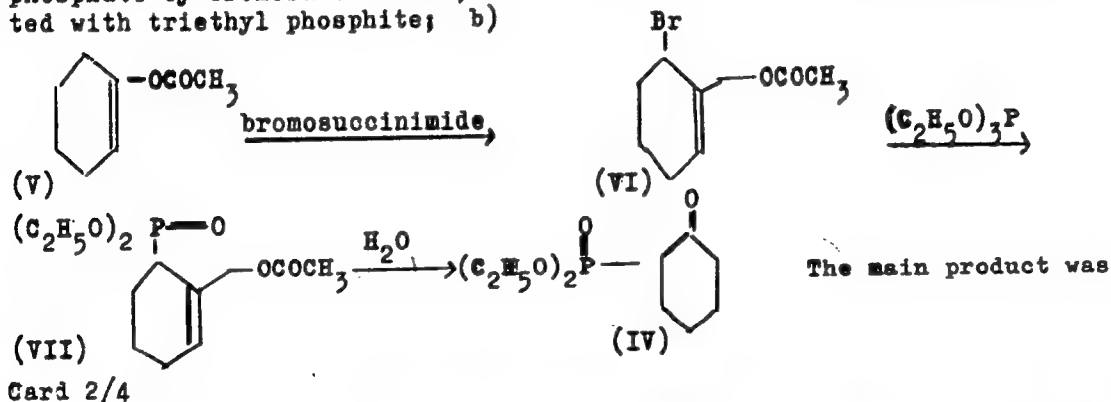
Card 1/4

21495

S/020/61/137/004/019/031
B103/B208

Diethyl ester of ...

ween dibromo-cyclohexanone and triethyl phosphite (Ref. 2) is complicated. Conformation of the initial dibromo-cyclohexanone might be one of the causes of this complicated course of reaction. The authors therefore studied the effect of triethyl phosphite and sodium diethyl phosphite on cis- and trans-2,6-dibromo- and on 2,6-dichloro-cyclohexanones. The following attempts of synthesizing (III) failed: a) bromination of diethyl-cyclohexenyl phosphate by bromosuccinimide, in which the resultant monobromide was treated with triethyl phosphite; b)

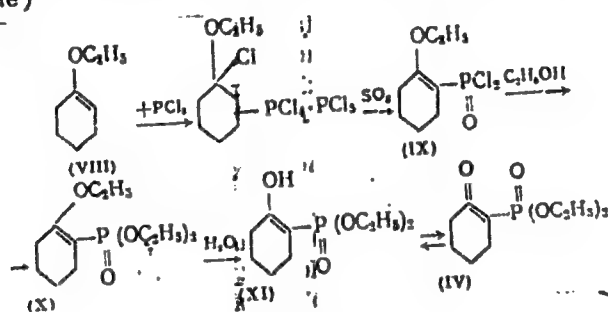


21495

S/020/61/137/004/019/031
B103/B208

Diethyl ester of ...

diethyl-cyclohexenyl phosphate (I). I.F. Lutsenko and M. Kirillov (Ref. 3, DAN, 128, 89, 1959) reported the possibility of preparing phosphone aldehydes and ketones by adding pentavalent phosphorus to enol acetate. The authors have so far not been able to find suitable conditions for this reaction in the case of cyclohexanone enol acetate. However, they synthesized (X) in an analogous way, proceeding from 1-ethoxy-cyclohexene (VIII) (see Scheme)



Card 3/4

Diethyl ester of ...

21495

S/020/61/137/004/019/031
B103/3208

By adding PCl_5 to (VIII), and by treating the resultant complex with SO_2 , they obtained the acid chloride (IX). Esterification of (IX) yielded the end product (X). Saponification of (X) with acidified water gave the diethyl ester of cyclohexanone-2-phosphinic acid (XI). Raman, infrared (IR), and ultraviolet spectra were taken for (IX) - (XI). The IR and Raman spectra of (XI) were in agreement with those of the ester obtained by the authors by ester interchange of (III) (Ref. 2). The authors conclude from a comparison of the spectra of the resultant esters that equilibrium is considerably shifted toward the enol form (XI) in their solutions in hexane. They do not exclude the participation of the $\text{P}=\text{O}$ group in the formation of an intramolecular hydrogen bond. There are 4 figures and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Nauchno-issledovatel'skiy khimicheskiy institut im. A.M. Butlerova pri Kazanskem gosudarstvennom universitete
(Scientific Research Institute of Chemistry imeni A.M. Butlerov of Kazan' State University)

SUBMITTED: December 16, 1960

Card 4/4

ACCESSION NR: AR4033714

S/0081/64/000/003/P027/P027

SOURCE: Referativnyy zhurnal. Khimiya, Abs. 3P216

AUTHOR: Vinogradova, V. S.; Kofman, L. S.; Lukashina, V. M.

TITLE: Separation, desiccation and purification of C₄ and C₅ hydrocarbons by molecular sieves

CITED SOURCE: Tr. po khimii i khim. tekhnol. [Gor'kiy], no. 2, 1962, 268-276

TOPIC TAGS: hydrocarbon, hydrocarbon fractionation, molecular sieve; zeolite, column chromatography, hydrocarbon drying, isopentane, isobutene

ABSTRACT: Tests were conducted in 20-50 ml cylinders, 12-15 mm in diameter, filled with synthetic zeolites. Separation of isopentane-pentane mixtures was investigated at a material charge rate of 1.5 liters/hr. and a sorption temperature of 60-70C. All the varieties of SaA sieves guaranteed the separation of pure isopentane. From a 1-butene-isobutene mixture, pure isobutene was obtained but hydrocarbon isomerization on the adsorbent was observed. The molecular sieves showed high efficiency in monomer desiccation: the water content dropped to 0.0001%.

DATE ACQ: 02Apr64

SUB CODE: CH

ENCL: 00

Card 1/1

L 40382-26 EIT(m)/EIP(1)/1 RM/RE/22

SOURCE CODE: UR/0000/65/000/000/0268/0274

ACC NR: AT6017658 (A)

AUTHOR: Urban, G. V.; Vinogradova, V. S.; Komarova, V. N.; Kofman, L. S.

ORG: none

TITLE: Thorough removal of sulfur compounds from C₄-C₆ alkanes

SOURCE: Vsesoyuznoye soveshchaniye po tseolitam. 2d, Leningrad, 1964. Tseolity, ikh sintez, svoystva i primeneniye (Zeolites, their synthesis, properties, and application); materialy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 268-274

TOPIC TAGS: desulfurization, alkane, zeolite, adsorption, mercaptan

ABSTRACT: The report covers feasibility of exploiting the unique sorption properties of synthetic zeolites to develop an industrial process for the desulfurization of C₄-C₆ alkanes and cycloalkanes used as source materials in the manufacture of high polymers. Emphasis was placed on the removal of mercaptans and thiophene. Isotherms for adsorption of various substances, hydrocarbons, and sulfurous compounds by various types of zeolites were obtained experimentally and processed graphically. Values for affinity factors, peak adsorption volume, and other needed constants were calculated by employing equations which describe the volumetric filling of pores. Coadsorption of sulfurous compounds and isopentane from the liquid phase

Card 1/2

L 4089-66

ACC NR: AT6017558

was analyzed for ethyl mercaptan and their relative capacity for adsorption was determined. The coadsorption of ethyl mercaptan and cyclopentadiene was studied in a dynamic environment. It was established that successive adsorption by NaA and NaCl zeolites represent a promising method for simultaneous deep drying and fine desulfurization of alkanes and cyclohexane. The authors formulated zeolite regeneration factors and evolved an equation to describe the specific consumption of displacer gas at various process parameters. Orig. art. has: 11 figures and 1 table.

SUB CODE: 07,11/ SUBM DATE: 29Oct65/ ORIG REF: 007

Card 2/2 *MLP*

L 06599-67 EWP(j)/EWT(m) RM/GD

ACC NR: AT6017557

(A)

SOURCE CODE: UR/0000/65/000/000/0259/0268

AUTHOR: Vinogradova, V. S.; Kofman, L. S.

ORG: none

33
2+1

TITLE: Separation and fine purification of hydrocarbons used in the high polymer industry by means of synthetic zeolites / Paper presented at the All-Union Conference on Zeolites held in Leningrad, 2nd, in 1964 /

SOURCE: Vsesoyuznoye soveshchaniye po tseolitam. 2d, Leningrad, 1964. Tseolity, ikh sintez, svoystva i primeneniye (Zeolites, their synthesis, properties, and application); materialy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 259-268

TOPIC TAGS: hydrocarbon, molecular sieve, adsorption, desulfurization, ethylene, propylene

ABSTRACT: Separation of mixtures of unsaturated hydrocarbons and selective removal of sulfur compounds (hydrogen sulfide, ethyl mercaptane, CS₂, thiophene), and water from olefinic feedstocks by dynamic adsorption on synthetic zeolites KA, NaA, CaA, and NaX was studied. The separations and purifications were conducted in liquid as well as in vapor phases. The saturated zeolites were regenerated with steam, nitrogen, or hydrocarbon vapors. Among the feedstocks studied were: commercial ethylene and propylene streams as well as artificial blends containing butanes and butene isomers, butadiene, isopentane, cyclohexane, and benzene. The adsorption isotherms were measured

Card 1/2

L 06599-67

ACC NR: AT6017557

at 20-100°C. The experimental data were correlated using an empirical equation for dynamic adsorption. It was found that, in general, separations and purifications were not due to the "sieve effect" of the zeolites but due to the difference in the polarizations and the polarizabilities of various molecules. It was found that proper conditions for separations of the unsaturated hydrocarbons with different structures can be worked out. It was also found that various sulfur compounds and water can be removed from hydrocarbons stream down to only a few parts per million level. The possibility of such a fine purification is explained in terms of the great affinity of the sulfur compounds and water to the polar zeolite surface. Orig. art. has: 7 figures, 7 tables, 8 formulas.

SUB CODE: 07/

SUBM DATE: 29Oct65/

ORIG REF: 012/

OTH REF: 002

Card 2/2 10-15

L 20773-66 EWP(j)/EWT(m) RM

ACC NR: AP6012034

SOURCE CODE: UR/0020/65/160/001/0099/0102

AUTHOR: Arbuzov, V. A. (Academician); Dianova, E. N.; Vinogradova, V. S.;
Shamsutdinova, A. K. 32
13

ORG: Chemical Institute im. A. M. Butlerov, Kazan' State University im. V. I. Ul'yandv-
Lenin (Khimicheskii institut pri Kazanskom gosudarstvennom universitete)

TITLE: Reactions of tri-(alpha-cyanoisopropyl) phosphite, ethyl-di-tert-(beta,beta,
beta-trichlorobutyl) phosphite, and tri-(beta,beta,beta-trichloroethyl) phosphite
with chloral

SOURCE: AN SSSR. Doklady, v. 160, no. 1, 1965, 99-102

TOPIC TAGS: organic phosphorous compound, chlorine compound, ester, chemical reaction

ABSTRACT: Tri-(alpha-cyanoisopropyl) phosphite was found to react with
chloral at room temperature, forming the di-alpha-cyanoisopropyl ester of alpha-
hydroxy-(beta,beta,beta-trichloroethyl)-phosphinic acid, splitting off methacryl-
onitrile. The reaction between chloral and tri-ter-(beta,beta,beta-trichlorobutyl)
phosphite produced di-ter-(beta,beta,beta-trichlorobutyl)-phosphorous acid, which
in turn reacted with chloral to give the di-ter-(beta,beta,beta-trichlorobutyl)
ester of alpha-hydroxy-beta,beta,beta-trichloroethylphosphinic acid. The reaction
of chloral with mixed di-ter-(beta,beta,beta-trichlorobutyl)-ethyl phosphite pro-
duced the di-ter-(beta,beta,beta-trichlorobutyl) ester of alpha-hydroxy-beta,beta,
beta-trichloroethylphosphinic acid and di-ter-(beta,beta,beta-trichlorobutyl)-
(beta,beta,-dichlorovinyl) phosphate. Another complete phosphite with electro-
negative groups in the ester radicals, tri-(beta,beta,beta-trichloroethyl)

Card 1/2

L 20773-66

ACC NR: AP6012034

phosphite, reacted with chloral at room temperature to give the di-beta,beta,beta-trichloroethyl ester of alpha-hydroxy-beta,beta,beta-trichloroethylphosphinic acid. The reaction mechanisms and infrared spectra of the reaction products are discussed. Orig. art. has: 4 figures. [JPRS]

SUB CODE: 07 / SUBM DATE: 11Jun64 / ORIG REF: 005 / OTH REF: 003

Card 2/2

ARBUZOV, B.A.; DIANOVA, E.N.; VINOGRADOVA, V.S.; SHAMSUTDINOVA, A.K.

Nature of di- α -cyanoisopropyl ester of phosphorous acid.
Izv. AN SSSR. Ser. khim. no.8:1389-1396 '65.

(MIRA 18:9)

1. Khimicheskiy institut im. A.M. Butlerova Kazanskogo
gosudarstvennogo universiteta.

TOMILOV, V.I.; VINOGRADOVA, V.S.

Case of prolonged preservation of the explosive properties of
black gunpowder (missile exploded after 105 years). Sud.-med.
ekspert. 3 no.2:55 Ap-Je '60. (MIRA 18:6)

i. Sudebno-meditsinskaya laboratoriya (nachal'nik - kand.med. nauk
F.I.Shkaravskiy), Kiev.

ARBUZOV, B.A.; POLEZHAYEVA, N.A.; VINOGRADOVA, V.S.; SHAMSUTDINOVA, A.K.

Products of interaction of chloroacetone and ω -bromoacetophenone
with diphenylphosphinic acid esters. Izv. AN SSSR. Ser. khim. no.4:
669-678 '65. (MIRA 18:5)

1. Khimicheskiy institut im. A.M.Butlerova Kazanskogo gosudarstven-
nogo universiteta im. V.I.Ul'yanova-Lenina.

Shawing? Ind. lat 17

"APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6

APPROVED FOR RELEASE: 09/01/2001

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001860010009-6"

L 1129-66 (N) EWT(1)/EWT(m)/EPF(c)/EMP(j)/EWA(b)-2/EWA(c) RPL JW/EA/RO/RM
 ACCESSION NR: AP5022930 UR/0052/65/000/008/1389/1396
 661.718.1

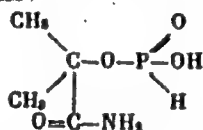
AUTHOR: Arbuzov, B. A.; Dianova, E. N.; Vinogradova, V. S.; Shamsutdinova, A. K.

TITLE: The nature of di- α -cyanisopropyl ester of phosphorous acid 7,6,44,55

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya no. 8, 1965, 1389-1396 46

TOPIC TAGS: ester, phosphorous acid, IR spectrum 43

ABSTRACT: The structure of di- α -cyanisopropyl 15



and tri- α -cyanisopropyl esters of phosphorous acid were investigated by IR spectroscopy. The IR spectra were taken using a Higler H-800 spectrophotometer. The 2000-3500 cm^{-1} range was investigated with an IKS-14 spectrophotometer. The IR spectrum

Card 1/3

L 1129-66

ACCESSION NR: AP5022930

of di- α -cyanisopropyl ester of phosphorous acid is shown in fig. 1 of the Enclosure. To verify the structure, these spectra were compared with the spectra of products from hydrolysis of the chloroanhydride of di- α -cyanisopropyl phosphoric acid. It was found that di- α -cyanisopropyl as well as tri- α -cyanisopropyl esters of phosphoric acid contain an atom of pentavalent phosphorous. Orig. art. has: 5 figures, 1 formula.

ASSOCIATION: Khimicheskiy institut im. A. M. Butlerova Kazanskogo gosudarstvennogo universiteta (Chemical Institute, Kazan State University) 44.55

SUBMITTED: 24Jun63

ENCL: 01

SUB CODE: GC, OC

NO REF SOV: 003

OTHER: 007

Card 2/3

L 1129-66

ACCESSION NR: AP5022930

ENCLOSURE: - 01

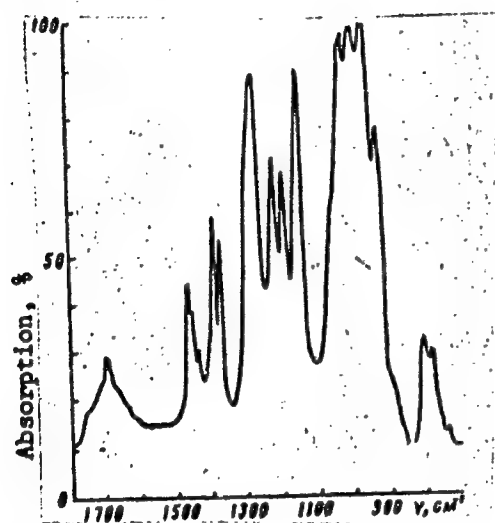


Fig. 1.

Card 3/3

ARBUZOV, V.A., akademik; DIANOVA, E.N.; VINOGRADOVA, V.S.; SHAMSUTDINOVA, A.K.

Reactions of tri-(α -cyanoisopropyl) phosphite, ethyl-di-tert-(β, β, β -trichlorobutyl) phosphite, and tri-(β, β, β -trichloroethyl) phosphite with chloral. Dokl. AN SSSR 160 no.1:99-102 Ja '65. (MIRA 18:2)

1. Khimicheskiy institut im. A.M. Butlerova pri Kazanskom gosudarstvennom universitete im. V.I. Ul'yanova-Lenina.

1-10000-5
ACCESSION NR. 10000-5

Алмуз Армузов, Б. А. (Academician): Dianova, E. N.; Vinogradova, V. S.;
Shamsutdinova, A. K.

TITLE: Reaction of sodium diethylphosphide with 1, 2-dibromocyclohexane and 1, 2-dibromomethane

SOURCE: AN SSSR. Doklady, v. 158, no. 1, 1964, 157-140

rough TAGO pres. this compound before releasing organosulfur compound
distillation

Abstract: The reaction of sodium diethylphosphide with 1, 2-dibromocyclohexane was studied to determine which phosphorus derivatives are formed. The following compounds were found after distillation of the reaction mixture:

Card 1/2

ACCESSION NR: AP5001947

2
compounds obtained in the reaction of dibromocyclohexane with sodium diethylphosphide proved to be the same as those for the reaction of sodium diethylphosphide with bromine.

ASSOCIATION: Nauchno-issledovatel'skiy institut im. A. M. Butlerova (Scientific Research Institute); Kazanskogo gosudarstvennogo universiteta

SUBMITTED: 09May64

ENCL: 00

SUB CODE: OC, GC

NO REF SOV: 005

OTHER: 007

JPRS

Card 2/2

ARBUZOV, B.A.; VINOGRADOVA, V.S.; POLEZHAYEVA, N.A.; SHAMSUTDINOVA, A.K.

Esters of β -ketophosphinic acids. Report No.12: Structure of the products of interaction of some aromatic α -halo ketones with triethyl phosphite and sodium diethyl phosphite. Izv.AN SSSR. Ser.khim. no.8:1380-1389 Ag '63. (MIRA 16:9)

1. Nauchno-issledovatel'skiy khimicheskiy institut im. A.M.Butlerova Kazanskogo gosudarstvennogo universiteta im. V.I.Ul'yanova-Lenina.
(Ketones) (Phosphorous acid)

ARBUZOV, B.A.; VINOGRADOVA, V.S.; POLEZHAYEVA, N.A.; SHAMSUTDINOVA, A.K.

- . Esters of β -ketophosphinic acids. Report No.11: Action of dimethane on diethyl esters of acetyl- and benzoylphosphinic acids. Izv. AN SSSR. (MIRA 16:3)
Otd. khim. nauk no.4:675-683 Ap '63.

1. Khimicheskiy institut im. A.M. Butlerova Kazanskogo gosudarstvennogo universiteta im. V.I. Ul'yanova-Lenina.
(Phosphinic acid) (Methane)

PHASE I BOOK EXPLOITATION

SOV/6246

Soveshchaniye po tseolitam. 1st, Leningrad, 1961.

Sinteticheskiye tseolity; polucheniye, issledovaniye i primeneniye
(Synthetic Zeolites: Production, Investigation, and Use). Mos-
cow, Izd-vo AN SSSR, 1962. 286 p. (Series: Its: Doklady)
Errata slip inserted. 2500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye khimicheskikh
nauk. Komisiya po tseolitam.

Resp. Eds.: M. M. Dubinin, Academician and V. V. Serpinskiy, Doctor
of Chemical Sciences; Ed.: Ye. G. Zhukovskaya; Tech. Ed.: S. P.
Golub'.

PURPOSE: This book is intended for scientists and engineers engaged
in the production of synthetic zeolites (molecular sieves), and
for chemists in general.

Card 1/4 4

Synthetic Zeolites: (Cont.)

30V/6246

COVERAGE: The book is a collection of reports presented at the First Conference on Zeolites, held in Leningrad 16 through 19 March 1961 at the Leningrad Technological Institute imeni Lensovet, and is purportedly the first monograph on this subject. The reports are grouped into 3 subject areas: 1) theoretical problems of adsorption on various types of zeolites and methods for their investigation, 2) the production of zeolites, and 3) application of zeolites. No personalities are mentioned. References follow individual articles.

TABLE OF CONTENTS:

Foreword

Dubinin, M. M. Introduction

3

5

Card 2/1414

Synthetic Zeolites: (Cont.)

SOV/6246

Vinogradova, V. S., and L. S. Kofman. Investigation of the Molecular-Sieve Properties of Synthetic Zeolites 99

Mirskiy, Ya. V. The Heat of Wetting of Granular Zeolites 103

PRODUCTION OF ZEOLITES

Zhdanov, S. P., and N. N. Buntar'. Investigation of the Hydrothermal Synthesis Conditions and Properties of Sodium Zeolites 105

Tsitsishvili, G. V., and T. G. Andronikashvili. Synthesis and Some Adsorption Properties of Synthetic Zeolites 117

Iru, P., O. Grabner, and M. Ralek. Preparation and Properties of Synthetic Zeolites 129

Card ~~6/12~~ 3/4

Synthetic Zeolites: (Cont.)

807/6246

Tonkonog, L. G., K. V. Chmutov. Separation of Mixtures of Ethyl and Methyl Alcohols on Synthetic Zeolites 230

Vol'f, M. B., and R. V. Alekseyeva. Application of Synthetic CaA Zeolites in Separating Hydrocarbon Mixtures 233

Mitrofanov, M. G., and Ya. V. Mirskiy. Separation of Petroleum Fractions on Synthetic Zeolites 236

Kel'tsev, N. V., A. F. Starovoytova, and N. S. Torocheshnikov. The Adsorption Method of Purifying Isopentane From Admixtures of n-Pentane 239

Vinogradova, V. S., and L. S. Kofman. Application of Synthetic Zeolites in Separating and Purifying Synthetic Rubber Monomers 245

Card 20/22

4/4

VINOGRADOVA, V.S., POLEZHAYEVA, N.A.

"Diethyl ester of cyclohexanone-2-phosphinic acid and its tautomerism."

Khimiya i Primeneniye Fosfororganicheskikh Soedineniy (Chemistry and application of organophosphorus compounds: A. Ya. A. 1971, Ed. publ. by Kazan Affil. Acad. Sci. USSR, Moscow 1972, 132 pp.).

Collection of complete papers presented at the 1969 Kazan Symposium: Chemistry of Organophosphorus Compounds.

S/081/62/000/018/017/059
B144/B186

AUTHORS: Kofman, L. S., Vinogradova, V. S., Mitrofanova, V. B.

TITLE: Method of determining microquantities of dimethyl formamide and dimethyl amine in hydrocarbons

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 18, 1962, 127, abstract 18D173 (Vestn. tekhn. i ekon. inform. N.-i. in-t tekhn.-ekon. issled. Gos. kom-ta Sov. Min. SSSR po khimii, 1961, no. 11, 21 - 26).

TEXT: A photometric method for the direct quantitative determination of dimethyl formamide (I) impurities in hydrocarbons (HC) is based on the color reaction of hydroxamic acids with Fe^{3+} ions. On reaction with alkaline solution of hydroxyl amine (II), I forms hydroxamic acid (HA). Dimethyl formamide is extracted from HC by an alkaline solution of II. To ensure a good contact between the HC and the small volume of extractive a special apparatus (shown diagrammatically) is used in which the HC vapors bubble continuously through a layer of II solution. To 2 ml of II hydrochloride solution in the apparatus 2 ml 3.5 N NaOH or KOH solu-

Card 1/3

Method of determining...

S/081/62/000/018/017/059
B144/B186

tion and the HC sample containing 0.3 - 1 mg I. are added. The mixture is kept for 40 min at 40°C and is then rapidly cooled, whereupon 2 ml of 3 N HNO₃ and 2 ml saturated solution of ferric-ammonium sulfate are added to it. The colored bottom layer is separated from the HC layer and photometrically measured. The mean error in the determination of I is ± 15%. To determine dimethyl amine (III) in HC the color reaction of III with furfural (IV) is used. III is extracted from HC with 0.1 N solution of the acid, and 2.5 ml 0.1 N KOH solution with 1.5 ml of 25% solution of IV in ethanol are added to 1.5 ml of the acid layer, then photometrically measured for 30 min. The mean error of III determination is 5 - 10%. An indirect method of determining I is also described; this is based on I hydrolysis by acid and on determination of the III formed. 5 - 100 ml HC is kept in the above-mentioned apparatus with 5 ml of 10% H₂SO₄ at 60°C for 1 hr. The content of the apparatus is cooled, the acid layer is drained off into an apparatus for the distillation of III (figure is shown), the HC layer is washed with water and added to the acid solution of III, 20% KOH solution is added until the mixture turns alkaline, III is distilled by air into a container with 0.1 N acid and photometrically

Card 2/3

Method of determining...

S/081/62/000/018/017/059
B144/B186

determined as described above. The mean error in the determination of I is 15 - 20%. For the separate determination of I and III in HC, III is determined in one HC sample and the I+III content in another sample. Content I is calculated from the difference. [Abstracter's note: Complete translation.]

Card 3/3

AREUZOV, B.A.; VINOGRADOVA, V.S.; POLEZHAYEVA, N A.

Esters of β -ketophosphinic acids. Report No.10: Diethyl ester of
2-cyclopentanone-1-phosphinic acid. Izv. AN SSSR Otd.khim.nauk
no.1:71-78 Ja '62. (MIRA 15:1)

1. Nauchno-issledovatel'skiy khimicheskiy institut im. A.M.Butlerova
Kazanskogo gosudarstvennogo universiteta im. V.I.Ul'yanova-Lenina.
(Phosphinic acid)

ARBUZOV, B.A.; VINOGRADOVA, V.S.; POLEZHAYEVA, N.A.

Esters of β -ketophosphinic acids. Report No.8: Reaction of
2,6-dibromocyclohexanone with triethyl phosphite. Izv.AN SSSR.-
Otd.khim.nauk no.11:2013-2020 N '61. (MIRA 14:11)

1. Khimicheskiy institut im. A.M.Butlerova Kazanskogo gosudarstven-
nogo universiteta.

(Cyclohexanone) (Phosphorous acid)

ARBUZOV, B.A.; VINOGRADOVA, V.S.; POLEZHAYEVA, N.A.

Esters of β -ketophosphinic acids. Report No.9: Reaction of
2,6-dibromo- and 2,6-dichlorocyclohexanone with one and two moles
of triethyl phosphite. Izv.AN SSSR.Otd.khim.nauk no.11:2020-2028
N '61. (MIRA 14:11)

1. Khimicheskiy institut im. A.M.Butlerova Kazanskogo gosudarstven-
nogo universiteta.
(Cyclohexanone) (Phosphorous acid)

KOROTKINA, D.Sh.; VINOGRADOVA, V.V.; KARELINA, G.G.

Copolymerization of unsaturated organophosphorus compounds.
Kauch.i rez. 21 no.4:1-3 Ap '62. (MIRA 1514)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo
kauchuka.

(Phosphorus organic compounds) (Polymerization)

BORISOV, S.N.; VINOGRADOVA, V.V.; LYASHEVKO, I.N.; NAMETKIN, N.S.;
CHERNYSHEVA, T.I.

Addition of cyclic siloxanes containing Si-H bonds to unsaturated
compounds. Izv. AN SSSR Ser. khim. no.12:2230-2232 D '64
(MIRA 18;1)

1. Institut neftekhimicheskogo sinteza imeni A.V. Topchiyeva
AN SSSR i Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka.

S/081/63/000/004/018/051
B166/B186

AUTHORS: Kalabina, A. V., Filippova, A. Kh., Aksenenko, R. A.,
Latysheva, E. S., Vinogradova, V. V., Zhidyayeva, L. M.

TITLE: Studies in the field of synthesis and conversions of vinylaryl
esters. No. 22. Synthesis and certain conversions of vinyl
esters and acetals of bromophenols

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1963, 238 - 239, ab-
stract 4Zh123 (Izv. Fiz.-khim. n.-i. in-ta pri Irkutskom un-te,
v. 5, no. 1, 1961, 120 - 130)

TEXT: Vinylation of 2-bromophenol (I) and 4-bromophenol (II) by the Favor-
skiy - Shostakovskiy method (initial pressure of acetylene 18 - 28 atm
210 - 220°C, 30 - 45 min) in the presence of a large quantity of KOH or NaOH
and with high dilution of the reaction mixture with water (sometimes with
dioxane added) made possible the synthesis of the vinyl ester of I, yield
40%, b.p. 93 - 94°C/8 mm Hg, n_{D}^{20} 1.5676, d_4^{20} 1.4339, and the vinyl ester
of II (III), yield 12 - 52%, b.p. 215 - 216°C/728 mm Hg, 109 - 110°C/11 mm
Hg, n_{D}^{20} 1.5685, d_4^{20} 1.4366. The addition of I - II to aliphatic and

Card 1/3

S/081/63/000/004/018/051
B166/B186

Studies in the field of synthesis...

aromatic vinyl esters (with thorough stirring in the presence of 2 - 4 drops concentrated HCl) gave a series of $\text{CH}_3\text{CH}(\text{OR})\text{OR}'$ acetals (IV). Below are given: the initial vinyl ether, quantity in moles, the initial phenol, quantity in moles, reaction temp. in $^{\circ}\text{C}$ and the reaction time in hrs, R and R' in IV, yield %, b.p. in $^{\circ}\text{C}/\text{mm Hg}$, n_D^{20} and d_4^{20} : vinylethyl ether (V), 0.430, I, 0.300, 85 - 90, 1.5, C_2H_5 , $\text{O}-\text{BrC}_6\text{H}_4$, 40, 135/15, 1.5223, 1.3208; V, 0.120, II, 0.058, 70 - 75, 1.5, C_2H_5 , $n-\text{BrC}_6\text{H}_4$ (IVa), 124 - 125/8, 1.5308, 1.3483; vinylbutyl ether, 0.679, II, 0.579, 75 - 86, 1, C_4H_9 , $n-\text{BrC}_6\text{H}_4$ (IVb), 38, 155 - 156/17, 1.5051, 1.2364; vinylphenyl ether, 0.167, II, 0.167, 70 - 80, 2, C_6H_5 , $n-\text{BrC}_6\text{H}_4$, 47.1, 171 - 173/6, 1.5831, 1.3784; III, 0.115, II, 0.104, 70 - 80, 2, $n-\text{BrC}_6\text{H}_4$ (IVc), 55, 216 - 217/8, m.p. 46°C , 1.6025, -.

A study was made of substitution of the Br atom in III and IV by ethyl and ethoxyl groups. Experiments to hydrolyze III and IV with dilute alkali to the respective vinyl esters of the phenols (in an autoclave, 220 - 300°C , in the presence of Cu_2Cl_2 and Cu shavings) were unsuccessful. To 53 mmoles IVa in 20 ml oryoscopic C_6H_6 were added 0.08 moles $\text{C}_2\text{H}_5\text{Br}$ and 0.13 moles Na, Card 2/3

Studies in the field of synthesis...

S/081/63/000/004/018/051
B166/H186

which was thoroughly stirred for 2 hrs at 60 - 65°C and then left to stand for ~12 hrs, whereupon it was filtered through glass wool and distilled, to give IV ($R = C_2H_5$, $R' = n-C_2H_5C_6H_4$) (IVd), yield 60%, b.p. 93 - 94°C/16 mm Hg, n_D^{20} 1.5008, d_4^{20} 0.9851. 5 g IVd and 20 ml 20% H_2SO_4 were heated for 3 hrs at ~100°C to give 4-ethylphenol (VI), yield 88%, b.p. 93 - 95°C/7 mm Hg, n_D^{20} 1.5240. In the optimum experiment 0.054 moles IVb, 0.079 moles C_2H_5Br and 0.13 moles Na in 200 ml C_6H_6 were heated for 2 hrs at 80°C and, as stated above, IV were separated ($R = C_4H_9$, $R' = C_2H_5C_6H_4$), yield 8%, b.p. 140 - 142°C/17 mm Hg, n_D^{20} 1.4960, d_4^{20} 0.9275. Under similar conditions (85 - 90°C, 2.5 hrs) the vinyl ester of VI was produced, yield 10%, b.p. 92 - 93°C/18 mm Hg, n_D^{20} 1.5148. A mixture of 0.077 moles III, 0.117 moles dry C_2H_5ONa , 10 ml C_6H_6 and 50 g Cu filings was kept at 330°C for 6 hrs; it was then washed with 10% alkali and 4-ethoxyphenol vinyl ester was separated by distillation, yield 40%, b.p. 101 - 102°C/3 mm Hg, n_D^{20} 1.5232. See abstract 4Zh122. [Abstracter's note: Complete translation.]

Card 3/3

010711-1

44/74 RU

36
34

ACCESSION NR. AP5001600

8/10/64/001/012/2230/2232

Author: S. N. V. ...
Title: ...

TITLE: Addition of cyclic siloxanes containing Si-H bonds to unsaturated compounds

SOURCE: AN SSSR. Izvestiya ...

TOPIC TAGS: cyclic siloxane addition product, cyclic siloxane unsaturate adduct, synthesis

ABSTRACT: Four new ...
...
...

IR and NMR spectra

Card 1/2

25472-65

ACCESSION NR. AP 57781

Orig. art. has: 1 table and 2 formulas

ASSOCIATION: Institut neftekhim. - otdel sudezhn. A. V. Topolnaya

At the time of the investigation, the author was a member of the Academy of Sciences

Card 2/2

VOROB'YEVA, O.V., kand. tekhn. nauk; VINOGRADOVA, V.V., inzh.

Metal oxide films on glass with uniform and variable
resistance. Stek. 1 ker. 20 no.8:13-15 Ag '63.
(MIRA 16:11)

1. Gosudarstvennyy institut stekla.

37175

S/138/62/000/CO4/CO1/CO8
A051/A126

15.9209
11.2219

AUTHORS: Korotkina, D.Sh.; Vinogradova, V.V.; Karelina, G.G.
TITLE: Copolymerization of unsaturated phosphor-organic compounds
PERIODICAL: Kauchuk i rezina, no. 4, 1962, 1 - 3

TEXT: The effect of the phosphorous atom on polymer properties was investigated and a comparison was made of the sodium-butadiene and acryl rubber properties with those of similar polymers containing phosphorous in the side chain. The ethers of allyl-, butadiene-, isoprene-styrene-phosphene acids were used as the phosphorous-containing monomers in the experiments. The QOK-M (FEK-M) photocolormeter was used to determine the phosphorous content in the initial products and polymers. The introduction of the phosphorous atom into the polymer chain of the sodium-butadiene rubber was found, in most cases, to improve considerably the physico-mechanical properties of the vulcanizates at low temperatures, as compared to the sodium-butadiene rubber produced by the emulsion method. The properties of the acryl polymer were considerably improved at low temperatures upon introducing 1% of phosphorous into the polymer. The following conclusions could be drawn: the ethers of the unsaturated phosphene acids copolymer-

Card 1/2

Copolymerization of

S/138/62/000/004/001/008
A051/A126

ize with the butadiene and butylacrylate, forming rubber-like and liquid polymers. The introduction of the phosphorous atom into the polymer chains of the sodium-butadiene and butylacrylate rubbers improves their properties at low temperatures, increases the resistance to various solvents and, in some cases, increases the physico-mechanical indices of the rubbers. There are 3 tables. The reference to the most recent English-language publication reads as follows: J.M.C. Cormack, Pat. USA 2671078, 2671079, C.A., 48, 6738 (1954). ✓

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka (All-union Scientific-Research Institute of Synthetic Rubber)

Card 2/2

L 17466-63

EWP(q)/EWT(m)/BDS APFTC/ASD Pq-4 WH

ACCESSION NR: AP3004689

S/0072/63/000/008/0013/0015

AUTHORS: Vorob'yeva, O. V. (Candidate of technical sciences); Vino-gradova, V. V. (Engineer)

TITLE: Metallic oxide-coatings on glass with uniformly-alternating resistances

SOURCE: Steklo i keramika, no. 8, 1963, 13-15

TOPIC TAGS: metallic oxide glass coating, tin dioxide, antimony

ABSTRACT: Authors studied samples of SnO_2 films modified by small admixtures of Sb. The films were deposited on VVS glass. The film-forming solution was sprayed on. The treatment conditions of the glass, amount of film-forming substance applied in a unit of time and other conditions were identical for all test samples. X-ray analysis revealed that the interplanar distances of the analyzed substance coincide with the corresponding values for SnO_2 . The relative intensity of the diffraction lines is identical for all samples in the X-ray picture. Authors conclude on the basis of these findings that the primary orientation of the SnO_2 crystals is identical in all

Card 1/2

L 17466-63

ACCESSION NR: AP3004689

samples and does not depend upon the angle of the film-forming jet. Determination of the electrical parameters of the samples showed that the specific resistance of the coating rises in proportion to the increase in angle of slope of the jet. Measurement of the thickness of the coatings bore out the assumption that change in resistance is dependent upon the varied thickness of the coatings. The film thickness is decreased in proportion to the increase in the slope of the jet. The transparency is also reduced in this case. Authors conclude that it is not always advantageous to use slanted jets to obtain a coating with uniformly-alternating resistance. Orig. art. has: 1 figure and 1 table.

ASSOCIATION: Institut stekla (Glass institute)

SUBMITTED: 00

DATE ACQ: 28Aug63

ENCL: 00

SUB CODE: MA

NO REF SOV: 000

OTHER: 000

Card 2/2

VINOGRADOVA, Ye.
VINOGRADOVA, Ye., inzh.

"Leather technology" by IU.P.Zybin [prof.] Reviewed by E.Vinogradova.
Leg.prom. 16 no.10:52-53 0 '56. (MIRA 10:12)
(Leather industry) (Zybin, IU.P.)

VINOGRADOVA, YE.

"The Action of Diazobenzene on Alkylacetylacetic Esters as a Means of Obtaining the Phenylhydrazones of α -Ketonic and α -Amino Acids" Part II. "The Synthesis of Phenylallanine," Zhur. Obshch. Khim, 10, No 3, 1940. Laboratory of Albumen, Academy of Science U.S.R. Received 29 August 1939.

Report U-1526, 24 Oct. 52.

GRADOVA, YE.

"The Synthesis of the Phenylhydrazone of
Phenylpruvic Acid from Benzylmalonic and
Benzcyanacetic Esters" Part. LV. Zhur.
Obsch. Khim, 10, No 3, 1940. Laboratory of
Albumen, Academy of Sciences USSR. Received
29 August 1939.

Report U-1526, 24 Oct 52.

VINOGRADOVA, Ye.

Metody Opreleleniia Kontzentratsii Vodorodnykh Ionov (Methods for Determining Concentrations of Hydrogen Ions) (Paper edition)

119 p. 60¢

SO: Four Continent Book List, April 1954

VINOGRADOVA, YE., FEOFILAKTOV, V.

"The Synthesis of the Phenylhydrazone of Phenylpyruvic Acid from Benzylmalonic and Benzylcyanacetic Esters" Part IV. Zhur. Obshch. Khim, 10, No. 3, 1940. Laboratory of Albumen, Academy of Sciences USSR. Received 29 August 1939.

Report U-1526, 24 Oct 52